

“p+1” 182, the next tile in temporal order established in the dither tile structure 170, frame 7, is used. Likewise, for the second tile in the first row 186 of frame ”p” 180, tile 2 is used and the next tile, tile 3 is used for that location 196 in frame “p+1” 182. Of course, other non-random and pseudo-random patterns may be employed as well.

5        The terms and expressions employed in the foregoing specification are used therein as terms of description and not of limitation, and there is no intention in the use of such terms and expressions of excluding equivalents of the features shown and described or portions thereof, it being recognized that the scope of the invention is defined and limited only by the claims that follow.

10        We claim:

1. A method for creating a dither pattern array, said method comprising:
  - a. assigning a value to pixels in the pattern such that subsequent pixel values are placed at a location that is dispersed from previously-placed pixel values that are located in other color channels and other temporal frames.
2. A method according to claim 1 wherein said dispersion from pixel values in said other color channels is weighted differently from dispersion from said pixel values in said other temporal frames.
3. A method according to claim 1 wherein said dispersion from pixel values in other color channels is weighted such that dispersion from pixel values in a first color channel is weighted differently from dispersion from pixel values in a second color channel.

4. A method for creating a dither pattern for a multiple image description channel image, said method comprising:

assigning a value to pixels in a plurality of dither pattern tiles, each of said tiles being allocated to an image description channel, wherein said assigning is performed using cross-channel influence, such that subsequently-assigned pixel values are placed at a location that is related to the location of previously-assigned pixel values in the same image description channel and related to the location of previously-assigned pixel values in other image description channels.

5. A method according to claim 4 wherein said “related to the location” comprises dispersion from the location.
6. A method according to claim 4 wherein said “related to the location” comprises dispersion from the location using a combined repellent function comprising a spatial/temporal function and a cross-color-channel function.
7. A method according to claim 4 wherein said relation to the location of previously-designated pixels is channel specific such that pixel values in one color channel will disperse differently than pixel values in another channel.
8. A method according to claim 4 wherein said relation to the location of previously-

designated pixels is channel specific such that pixel values in color channels other than the channel of the pixel being designated will disperse differently than pixel values in the same channel.

9. A method according to claim 4 wherein said image description channels are color channels.
10. A method according to claim 4 wherein said image description channels comprise three channels for each of a red, green and blue color.
11. A method according to claim 4 wherein pixel values in said channels are assigned in a sequence one channel at a time with cross-channel influence being used to assign pixel locations after a first channel is designated.
12. A method according to claim 4 wherein pixel values in said channels are assigned in parallel with cross-channel dispersion influence for each channel.

13. A method for creating a spatio-temporal array of dither patterns, said method comprising:

- a. establishing a spatio-temporal array of dither pattern tiles comprising a plurality of temporal framesets, each of said framesets comprising a plurality of pattern tiles for each of a plurality of color channels; and
- b. designating pixel values in said dither pattern tiles wherein subsequently-designated pixel values are spatially dispersed from previously-designated pixel values in the same dither pattern tile, previously designated pixel values in dither pattern tiles in other color channels and dither pattern tiles in other temporal frames.

14. A method according to claim 13 wherein said dispersion from pixel values in other temporal frames is weighted wherein temporal frames more temporally distant from a pixel value have a lower dispersion than closer temporal frames.

15. A method according to claim 13 wherein said dispersion from pixel values in other color channels is weighted wherein other color channels have a lower dispersion than the color channel in which a pixel value is designated.

16. A method according to claim 13 wherein pixel values designated in a last temporal frame are considered temporally adjacent to a first-designated frame wherein said pixel values in said first-designated frame have a dispersion effect on pixels designated in said last frame.

17. A method for creating a spatio-temporal array of dither patterns, said method comprising:

- a. establishing a first temporal frameset comprising dither pattern tiles for each of a plurality of color channels;
- b. selecting a first pixel value level for subsequent pixel value designation;
- c. calculating a cross-color-channel influence;
- d. constructing a spatial/temporal repellent function;
- e. establish a pixel quantity;
- f. select a color channel for pixel value designation;
- g. create a combined cross-color-channel and spatial/temporal repellent function;
- h. find the location of an extreme value of said combined function;
- i. designate a pixel value corresponding to said first pixel value level at said location;
- j. update said combined function to account for the presence of said newly designated pixel value;
- k. select a new color channel
- l. repeat steps h through k until a pixel value has been designated in all color channels;
- m. increment a pixel counter value;
- n. repeat steps h through m until said pixel counter value equals said pixel quantity;
- o. select a new pixel value level;

- p. repeat steps c through o until all levels have been designated;
- q. advance to the next temporal frame; and
- r. repeat steps b through q until all temporal frames have been designated.
- s. designating a second pixel value at a second point in said second dither pattern tile of said subsequent temporal frameset, wherein said second point is placed at a location that is dispersed away from at least one pixel value in said subsequent temporal frameset, at least one pixel value in a prior temporal frameset;
- t. repeating step o until all pixel values in said second dither pattern tile have been designated;
- u. repeating steps n, o & p until all pixels in all dither pattern tiles in said subsequent temporal frameset have been designated;
- v. repeating steps j-q for a plurality of framesets.

18. A system for creating a spatio-temporal array of dither patterns, said method comprising:

- a. a spatio-temporal array of dither pattern tiles comprising a plurality of temporal framesets, each of said framesets comprising a plurality of pattern tiles for each of a plurality of color channels; and
- b. a designator for designating pixel values in said dither pattern tiles wherein subsequently-designated pixel values are spatially dispersed from previously-designated pixel values in the same dither pattern tile and dither pattern tiles in other color channels.

19. A set of executable instructions for creating a spatio-temporal array of dither patterns, said method comprising:

- a. establishing a spatio-temporal array of dither pattern tiles comprising a plurality of temporal framesets, each of said framesets comprising a plurality of pattern tiles for each of a plurality of color channels; and
- b. designating pixel values in said dither pattern tiles wherein subsequently-designated pixel values are spatially dispersed from previously-designated pixel values in the same dither pattern tile and dither pattern tiles in other color channels.